

## 5COSC011C - Tutorial 3 Exercises

As part of this tutorial for this week, you should complete **ALL** the tasks described in the following links and specifications:

### 1. Displaying Drawables

As you have seen previously when we would like to display drawable resources like images we could use the `@drawable/resource` in XML. Run the code with the following layout and activity by creating a new Android project and replace its layout and activity code with the one given below. You should download the following image (or use your own favourite image) rename it to [brittany\\_02625.jpg](#) and place it in the drawable directory of your project.

```
<?xml version="1.0" encoding="utf-8"?>
<!-- This is the layout of the Activity -->
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="uk.ac.westminster.drawableexample.MainActivity"
    android:orientation="vertical">

    <ImageView
        android:id="@+id/im_view"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:src="@drawable/brittany_02625"/>
</LinearLayout>
```

```

package uk.ac.westminster.drawableexample;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        ImageView v1 = findViewById(R.id.im_view);
    }
}

```

Similarly with other resources, drawable resources can be used to update widgets dynamically during run-time (Java code) depending on user choices.

Delete the `android:src="@drawable/brittany_02625"` line from your XML layout file and modify the Activity's Java code so that the `onCreate()` method looks like the following:

```

protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    ImageView v1 = findViewById(R.id.im_view);

    String resource = "brittany_02625";
    int resource_id = getResources().getIdentifier(resource, "drawable",
"uk.ac.westminster.drawableexample");
    v1.setImageResource(resource_id);
}

```

The `getIdentifier()` method accepts 3 arguments: the first is the resource name, the second the type of the resource (it is a drawable) and the third is the package name.

Challenge: Modify the program above so as to add a button which every time it is clicked alternates and displays one of 2 different images (e.g. as a second image you could use [Welsh springer spaniel 08203.jpg](#) or one of your favourite images.)

1. [Activities and intents](#)
2. [Activity lifecycle and state](#)